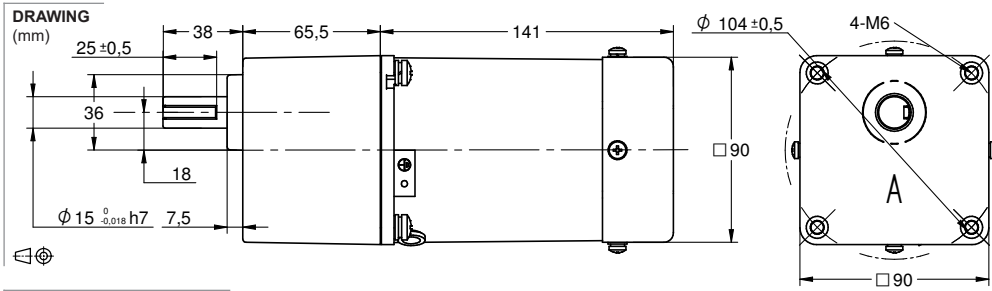


Motor model AIR-090W ← **SOLD SEPARATELY** → Gear box model S90B



**MODEL NO. DESIGNATION**

Motor model - Voltage - S/T C/B S= Single phase / T=Three phase C=Cable / B = Terminal box Example: AIR-006W-230-SC (\*)

Gear box model - Gear ratio Example: S60A-050 (\*)

**\* ALL MOTORS AND GEAR BOXES ARE SOLD SEPARATELY. SELECT GEAR BOX FRAME SIZE SAME AS MOTOR FRAME SIZE. ASSEMBLY SCREWS ARE INCLUDED IN DELIVERY**

| GEAR MOTOR DATA RATIO      | 3   | 3,6 | 5   | 6   | 7,5 | 9   | 1   | 12,5 | 15  | 18   | 20   | 25   | 30   | 36   | 40   | 50   | 60   | 75   | 90   | 100  | 120  | 150  | 180  | 200  | 250  | 300 | 500 | 600 | 750 |     |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|
| <b>230VAC 50Hz 1 phase</b> |     |     |     |     |     |     |     |      |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |     |
| Nominal rpm 220 VAC        | 417 | 347 | 250 | 208 | 167 | 139 | 125 | 100  | 83  | 69   | 63   | 50   | 42   | 35   | 31   | 25   | 21   | 17   | 14   | 13   | 10   | 8    | 7    | 6    | 5    | 4   | 3   | 2   | 2   |     |
| Nominal rpm 230 VAC        | 417 | 347 | 250 | 208 | 167 | 139 | 125 | 100  | 83  | 69   | 63   | 50   | 42   | 35   | 31   | 25   | 21   | 17   | 14   | 13   | 10   | 8    | 7    | 6    | 5    | 4   | 3   | 2   | 2   |     |
| Nominal Nm 220 VAC         | 1.7 | 2.0 | 2.8 | 3.4 | 4.3 | 5.1 | 5.7 | 7.1  | 8.5 | 10.2 | 11.3 | 12.8 | 15.3 | 18.4 | 20.4 | 25.6 | 27.7 | 34.7 | 41.6 | 46.2 | 55.4 | 69.3 | 83.2 | 92.4 | 103  | 124 | 207 | 248 | 310 |     |
| Nominal Nm 230 VAC         | 1.7 | 2.0 | 2.8 | 3.4 | 4.3 | 5.1 | 5.7 | 7.1  | 8.5 | 10.2 | 11.3 | 12.8 | 15.3 | 18.4 | 20.4 | 25.6 | 27.7 | 34.7 | 41.6 | 46.2 | 55.4 | 69.3 | 83.2 | 92.4 | 103  | 124 | 207 | 248 | 310 |     |
| <b>120VAC 60Hz 1 phase</b> |     |     |     |     |     |     |     |      |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |     |
| Nominal rpm 110 VAC        | 517 | 431 | 310 | 258 | 207 | 172 | 155 | 124  | 103 | 86   | 78   | 62   | 52   | 43   | 39   | 31   | 26   | 21   | 17   | 16   | 13   | 10   | 9    | 8    | 6    | 5   | 3   | 3   | 2   |     |
| Nominal rpm 120 VAC        | 517 | 431 | 310 | 258 | 207 | 172 | 155 | 124  | 103 | 86   | 78   | 62   | 52   | 43   | 39   | 31   | 26   | 21   | 17   | 16   | 13   | 10   | 9    | 8    | 6    | 5   | 3   | 3   | 2   |     |
| Nominal Nm 110 VAC         | 1.4 | 1.7 | 2.3 | 2.8 | 3.5 | 4.2 | 4.6 | 5.8  | 6.9 | 8.3  | 9.2  | 10.4 | 12.5 | 15.0 | 16.6 | 20.8 | 22.6 | 28.2 | 33.9 | 37.6 | 45.1 | 56.4 | 67.7 | 75.2 | 84.1 | 101 | 168 | 202 | 252 |     |
| Nominal Nm 120 VAC         | 1.4 | 1.7 | 2.3 | 2.8 | 3.5 | 4.2 | 4.6 | 5.8  | 6.9 | 8.3  | 9.2  | 10.4 | 12.5 | 15.0 | 16.6 | 20.8 | 22.6 | 28.2 | 33.9 | 37.6 | 45.1 | 56.4 | 67.7 | 75.2 | 84.1 | 101 | 168 | 202 | 252 |     |
| <b>GEAR HEAD DATA</b>      |     |     |     |     |     |     |     |      |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |     |
| Efficiency (%)             | 81  | 81  | 81  | 81  | 81  | 81  | 81  | 81   | 81  | 81   | 81   | 73   | 73   | 73   | 73   | 73   | 66   | 66   | 66   | 66   | 66   | 66   | 66   | 66   | 66   | 59  | 59  | 59  | 59  | 59  |
| Max. torque (Nm)           | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 10   | 10  | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10  | 10  | 10  | 10  | 10  |
| Radial F 20 mm shaft (N)   | 350 | 350 | 350 | 350 | 350 | 350 | 350 | 350  | 350 | 350  | 450  | 450  | 450  | 450  | 450  | 450  | 450  | 450  | 450  | 450  | 450  | 450  | 450  | 450  | 450  | 450 | 450 | 450 | 450 | 450 |
| Max. thrust load (N)       | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100  | 100 | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100  | 100 | 100 | 100 | 100 | 100 |
| Out rotation when in cw    | cw  | cw  | cw  | cw  | cw  | cw  | cw  | cw   | cw  | cw   | ccw  | ccw  | ccw  | ccw  | cw   | cw   | cw   | cw   | cw   | cw   | cw   | cw   | cw   | cw   | cw   | cw  | ccw | ccw | ccw | ccw |

| GEAR MOTOR FEATURES  | STANDARD                    | CUSTOMIZATION    |
|--|-----------------------------|------------------|
| Motor type   | AC induction                | Voltage          |
| Insulation Class   | 130 (B)                     | 155 (F)          |
| Speed tolerance  | ± 5%                        |                  |
| Cables 6W-25W   40W-120W   | AWG20   AWG-18 300 mm       | Harness          |
| Cables wiring  | Table at bottom of page     | Per request      |
| Housing materials  | Aluminium                   |                  |
| Gears and shaft material   | 40Cr                        | Shaft dimensions |
| Bearings types   | Ball bearings               |                  |
| Operating temperature  | -10...+40 °C                | -40...+40 °C     |
| Manufacturing quality standards  | ISO 9001                    |                  |
| RoHS compliance  | Yes                         |                  |
| CE   UL label  | Yes 230 400 (VAC)   120 208 |                  |
| IP rating cable   terminal box   | IP20   IP54                 |                  |
| <b>Insulation Resistance</b><br>100 M Ω or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.                      |                             |                  |
| <b>Dielectric Strength</b><br>Sufficient to withstand 1.5 kV at 50 Hz or 60 Hz applied between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity. |                             |                  |
| <b>Temperature Rise</b><br>Temperature rise of windings are 176°F (80°C) or less measured by the resistance change method after rated operation under normal ambient temperature and humidity.             |                             |                  |

| MOTOR DATA                        |        |        |
|-----------------------------------|--------|--------|
| Base voltage (VAC)                | 230    | 120    |
| Nominal voltage (VAC) A           | 220    | 110    |
| Nominal voltage (VAC) B           | 230    | 120    |
| Phase   Frequency Hz              | 1   50 | 1   60 |
| Number of poles                   | 4      | 4      |
| Output (W)                        | 90     | 90     |
| Nominal speed (rpm) voltage A     | 1250   | 1550   |
| Nominal speed (rpm) voltage B     | 1250   | 1550   |
| Nominal torque mNm voltage A      | 700    | 570    |
| Nominal torque mNm voltage B      | 700    | 570    |
| Nominal current (A) voltage A     | 0.82   | 1.72   |
| Nominal current (A) voltage B     | 0.81   | 1.72   |
| Stall torque mNm voltage A        | 560    | 550    |
| Stall torque mNm voltage B        | 560    | 600    |
| Capacitor μF included in delivery | 6      | 25     |
| Weight motor Kg                   | 3.25   | 3.25   |
| Weight gear motor Kg              | 4.75   | 4.75   |

| ELECTRIC WIRING CONNECTION |  |
|----------------------------|--|
| VERSION C 1 PHASE          | capacitor white-blue   neutral N-red   phase-white CW, -blue CWW |
| VERSION B 1 PHASE          | capacitor U2-Z2   neutral N-U1   phase-U2 CW, -Z2 CWW            |
| VERSION C B 3 PHASES       | -blue, -red, -white. Swap a pair for inversed rotation           |